

FIG. I

FIG. 2

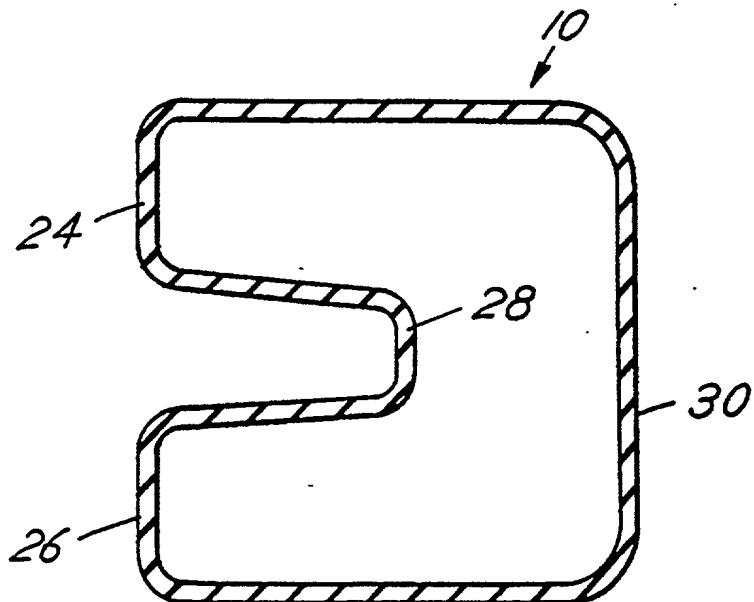


FIG. 3

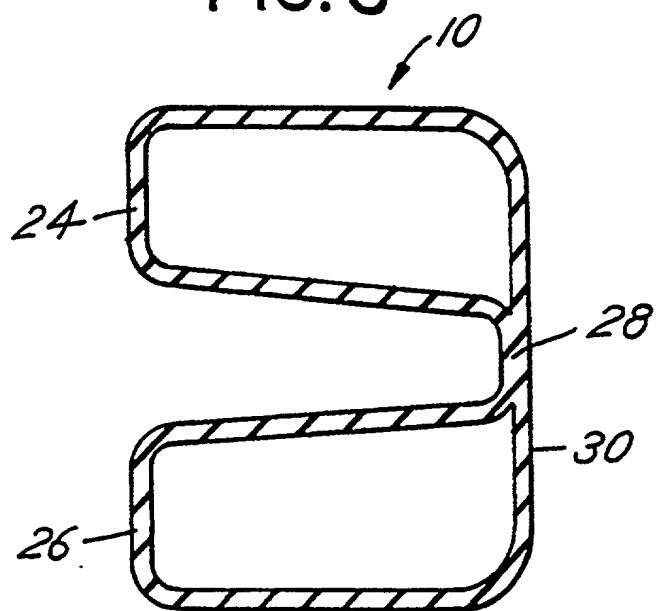
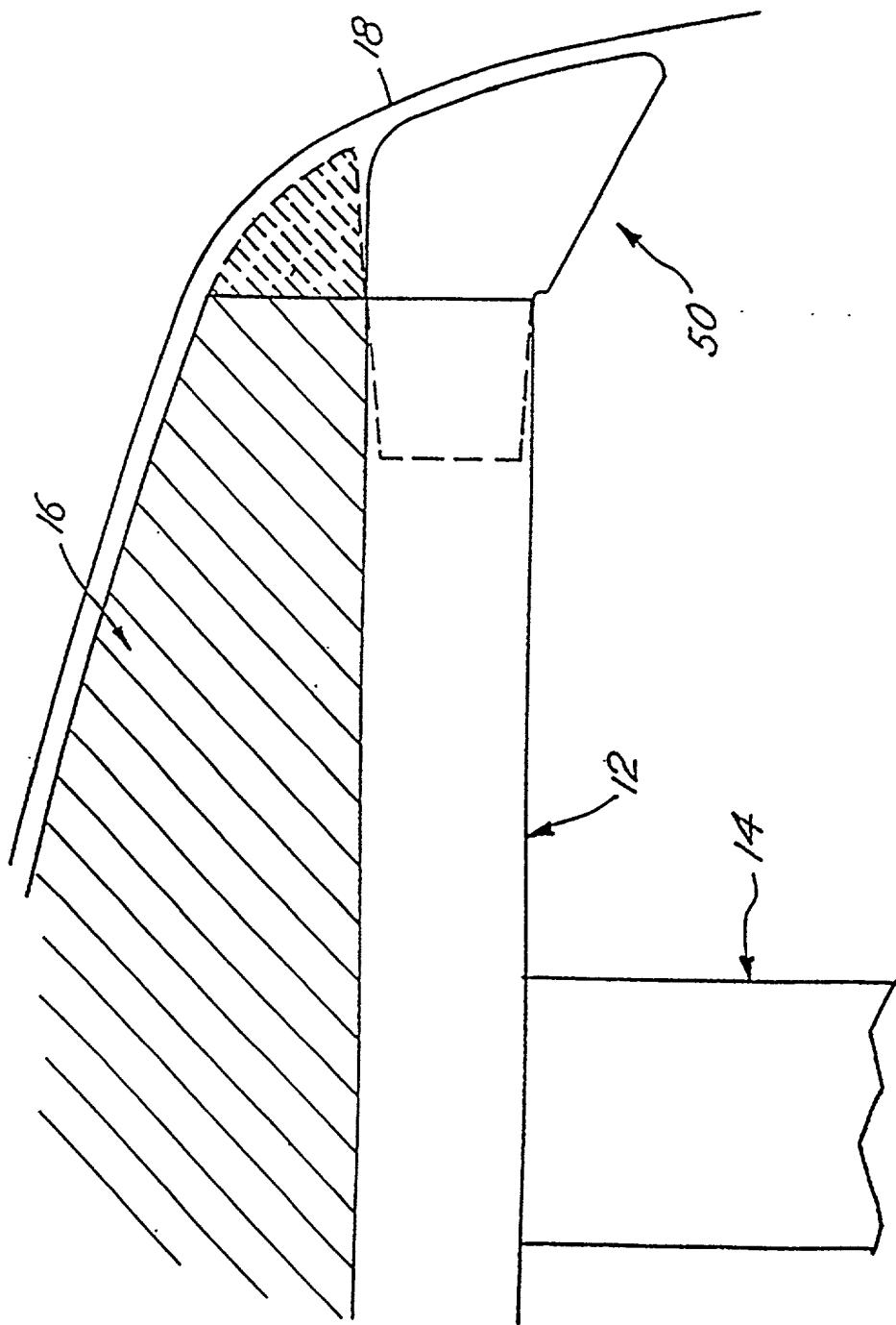


FIG. 4  
(PRIOR ART)



## FIG.5

52

SELECTING A MULTI-PART DIE WITH A CAVITY HAVING AN INITIAL VOLUME WHICH CORRESPONDS TO PREDETERMINED GENERAL OUTER CONTOURS OF THE BUMPER BEAM EXTENSION;

54

INJECTING A FIXED AMOUNT OF MATERIAL INTO THE CAVITY OF THE DIE;

56

INJECTING A GAS TO EXPAND THE MATERIAL TO THE PREDETERMINED GENERAL OUTER CONTOURS OF THE BUMPER BEAM EXTENSION FORMED BY THE DIE CAVITY, WHEREIN THE PREDETERMINED GENERAL OUTER CONTOURS INCLUDE AN INSERT END AND A MAIN BODY PORTION

58

CLOSING SELECTED SECTIONS OF THE MULTI-PART DIE, WHILE THE MATERIAL IS MALLEABLE, TO FORM A BIGHT SECTION JOINING AN UPPER WING AND A LOWER WING OF A MAIN BODY SECTION, WHEREIN THE BIGHT SECTION TAPERS FROM A PRESELECTED DISTANCE FROM A FORWARD WALL OF THE MAIN BODY PORTION UNTIL IT IS FACE TO FACE WITH THE FORWARD WALL

60

OPENING THE MULTI-PART DIE WHEN THE BUMPER BEAM EXTENSION IS SUBSTANTIALLY RIGID

62

WELDING THE BUMPER BEAM TO A FRAME OF A VEHICLE

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